

# Dalton Utilities

## Private Drinking Water Well Survey Protocol

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# Dalton Utilities Private Drinking Water Well Survey Protocol

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# Dalton Utilities Private Drinking Water Well Survey Protocol

## Executive Summary

Dalton Utilities, located in Dalton, Georgia, operates water treatment, wastewater treatment, natural gas, electric, and telecommunication systems that serve residents in the City of Dalton in addition to residents in Whitfield, Murray, Gordon, and Catoosa Counties.

Dalton Utilities wastewater operations is comprised of approximately 295 miles of pipe, 5,544 manholes, and 35 lift stations in the wastewater collection system, five wastewater treatment facilities, and 9,800 Land Application System (LAS). The largest three wastewater treatment plants (WWTP), Abutment WWTP, Riverbend WWTP, and Loopers WWTP are part of Dalton Utilities Land Application System (LAS) which is a non-discharging system.

These three WWTPs take wastewater from local industries and the residents of the City of Dalton and parts of Whitfield County and process the wastewater utilizing biological treatment. The treated wastewater or effluent is then transported to the canal or reservoir located at the LAS. The effluent flows through the canal system to the pump stations where the effluent is chlorinated and then pumped to various sprayfields. The effluent is distributed via underground piping and sprayed using impact sprinklers onto the land where the effluent infiltrates the soil surface and subsurface providing additional treatment.

In May 2009, Dalton Utilities collected samples at various locations on the LAS. In response to sample results obtained from the ground water monitoring wells on the LAS, Dalton Utilities decided to conduct a drinking water well survey to identify private drinking water wells in the immediate vicinity of the LAS that have the potential to have been impacted by the ground water coming from the LAS. As surface water and springs are not expected to be encountered, this project only refers to private drinking water wells and will be amended as necessary during the course of the project.

The private drinking water well sample results will be used to determine the levels of Perfluorinated Compounds (PFC), if any, in the private wells and used to evaluate what additional steps, if any, need to be taken to provide safe drinking water to these residents.

## **Drinking Water Well Survey Protocol**

### **1. Identification of Residences**

Dalton Utilities evaluated the subsurface hydrology of the site and surrounding area from information and records obtained during the installation of the groundwater monitoring wells on the LAS. This data which includes routine water level measurement data was used to develop potentiometric contour maps of the LAS and the surrounding area. Using these evaluations, Dalton Utilities started the well survey in areas deemed to be downgradient and where it was questionable as to the availability of public drinking water.

From this information, it was determined that the groundwater to the south and southeast of the LAS had the highest potential of impact or influence. Additionally, public water was not known to be available in this same area as it is known to be available in the remainder of the area surrounding the LAS property. As such, Dalton Utilities designed the well survey to begin in this vicinity and then expand out to test all residential locations that use a well for potable water in a one mile radius around the LAS property boundary similar to the approach used in Decatur, Alabama. A map delineating the one mile radius is attached herein as Attachment A.

Information on the residences for the drinking water well survey was obtained using the most current publication of the Polk City Directory. The Polk City Directory lists all addresses and residences by road name. In addition, Dalton Utilities used our internal Geographic Information System (GIS) mapping system which has streets, homes, and backgrounds illustrated. These lists of residential locations by road name were then confirmed and corrected using actual field surveys of each and every road. The list of homes in a one mile radius from the LAS border was compiled and cross checked against Dalton Utilities drinking water customer database in addition to the other public drinking water systems in the area. Any location not shown to have public drinking water was compiled as a location for potential sampling as part of this project.

At the suggestion of the United States Environmental Protection Agency (EPA), Dalton Utilities sought to review any Intent to Drill forms the North Georgia Health District possessed for locations within the one mile radius of this survey. A letter will be sent to the North Georgia Health District requesting these forms (see Attachment B).

### **2. Telephonic Notification**

Identified locations are to be contacted by Dalton Utilities via telephone and informed that the two chemicals for which there is a United States Environmental Protection Agency (EPA) Health Advisory, PFOA and PFOS, have been found in the groundwater at our land application site. The individuals will then be asked if

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public water is available or if private well water is used. If a private well is utilized, a convenient time to sample the well will be scheduled. An example of the typical conversation is provided as Attachment C.

### 3. Door-to-Door Notification

For locations that could not be reached via telephone, Dalton Utilities will go door-to-door and give residents the same notification as in the telephonic notification. This notification will proceed until contact has been made to confirm the presence of a drinking water well or public water system connection.

### 4. Site Visit

Once a convenient time has been scheduled, Dalton Utilities will visit the location and provide the residents with an information packet consisting of the frequent questions printed off of the EPA website on these chemicals as there is not enough information specific to the LAS at this time to develop a more detailed handout.

As the use of a written consent form would likely result in undue fear and speculation and deter the residents from granting permission to sample the private well, verbal permission from an adult resident will be obtained prior to sampling. If verbal permission to sample the private drinking water well is not granted, it will be noted and maintained in the well survey records.

### 5. Sampling Protocol

Upon obtaining permission, Dalton Utilities will collect samples from the private well in accordance with the EPA's Standard Operating Procedure for Potable Water Supply Sampling, SESDPROC-305-R1. The sampling will be performed by qualified personnel with experience in the field and will be collected using bottles provided by the contract laboratory specific for the analyses of PFCs.

Latitudes and longitudes, as collected using Global Positioning System (GPS) equipment, will also be obtained for each sample collection location and be uploaded to our internal GIS mapping system which has backgrounds including streets and homes illustrated.

### 6. Sample Identification, Labeling, Chain of Custody, and Recordkeeping

For simplicity, the sample containers will be labeled appropriately as to the location where the sample was collected. Duplicate samples will be labeled as duplicate, field blanks will be labeled as field blank, and trip blanks will be labeled as trip blank. Appropriate records will be maintained by Dalton Utilities to illustrate which locations were duplicated as part of this project.

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The sample container labels will correspond directly with the Chain of Custody. The individual collecting the sample will fill out the Chain of Custody appropriately and relinquish the samples to the contract laboratory via the signature on the Chain of Custody. An example Chain of Custody is attached herein as Attachment D.

All records pertaining to this project will be maintained by Dalton Utilities.

### 7. Quality Control

Duplicate samples will be collected at a frequency of ten percent (10%) of the total number of samples as part of this project. Field blanks, trip blanks, and equipment blanks will be collected and analyzed as well at a lesser frequency (approximately 5%). Quality control of the laboratory analyses will be conducted in accordance with the contract laboratory's QC program and procedures and will include laboratory duplicates and matrix spikes.

### 8. Shipment of Samples

The samples will be placed in the appropriately labeled containers with the completed Chain of Custody and shipped in an insulated container with ice via an overnight courier to the contact laboratory for analyses.

### 9. Sample Analyses

The samples collected as a part of this study will be analyzed for the list of compounds indicated in Attachment E. At the time of the development of this protocol, the selected contract laboratory did not have standards and/or validated methods developed for the additional perfluorinated chemicals (PFCs) noted in the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009. As such, the list of compounds indicated in Attachment E reflects the full current analytical capabilities of the contract laboratory as well as the corresponding detection limits with respect to PFCs.

The concentrations of these chemicals will be determined utilizing the contract laboratory's method for analyses. The method will be provided to Dalton Utilities by the contract laboratory in the subsequent analytical report. In the event a deviation from the laboratory methodology is necessary, it will be documented in the final analytical report.

### 10. Analysis of Well Survey Data

Analytical information obtained as part of this drinking water well survey will be reviewed by Dalton Utilities and compared to the published EPA Health Advisory levels for PFOA and PFOS.

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If it is determined that the concentration of the sample from the private well is below the method detection limits for both PFOA and PFOS, no further action will be necessary in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

If it is determined that the concentration of PFOA and PFOS in the sample from the private well is above the detection limit and below the published health advisory levels for either PFOA or PFOS, Dalton Utilities will obtain permission from the resident to sample the private drinking water well on a quarterly basis for the compounds listed in Attachment E until the level of PFOA and PFOS are demonstrated to be reliably and consistently below the published health advisory levels, the private well is no longer serving as a supply for drinking water, or the private well serving as supply for drinking water is being treated and maintained to levels below the published health advisory levels (e.g. granular activated carbon) in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

If it is determined that the concentration of the sample from the private well is above the published health advisory levels for either PFOA or PFOS, Dalton Utilities will ensure the residents are provided with bottled water and access to public water made available as soon as practical.

After all the final analytical results of the initial survey as well as any additional sampling as described above have been received, Dalton Utilities, in conjunction with the EPA and Georgia Environmental Protection Division (EPD), will evaluate all the results to determine if the expansion of the survey is warranted. Any results shown to be at or above the published health advisory levels in relation to the proximity to the LAS boundary as well as the frequency of any results above the published health advisory levels will be evaluated to determine if an expansion to the one mile radius is necessary and warranted. If it is determined that there is an insufficient number of drinking water wells within the initial survey distance, the possibility of expanding the survey will be evaluated. Additionally, the availability of results of the sampling of other wells, available well construction data, available information regarding hydrogeology of the area around the LAS, information on other sources of PFOA and PFOS in the area, and the existence of any already identified wells located in close proximity to but outside of the initial one mile radius will be evaluated in determining if an expansion of the initial survey radius is necessary and warranted.

### 11. Follow Up Notification

Dalton Utilities will share the results of the testing as well as any additional actions to be taken with the residents after receiving and reviewing the final results of the analytical testing for the respective location. Each location will be sent written correspondence notifying the residents of the respective results and additional actions, if any, and a copy of this correspondence submitted to EPA.

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### 12. Schedule

Dalton Utilities started this well survey in August 2009 and will complete the initial well survey within sixty (60) days following EPA's approval of this plan.

### 13. Reporting

A full report including the locations of private drinking water wells, the results of all analyses, and any follow up actions taken will be provided to EPA in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009. Additionally, final analytical reports from the contract laboratory will be submitted to EPA within five (5) days of receipt by Dalton Utilities.

All activities and results to date undertaken by Dalton Utilities will be reported to EPA as part of the Drinking Water Well Monitoring Report in accordance with the Clean Water Act (CWA) Section 308 letter from Mr. James Giattina, EPA, to Dalton Utilities dated October 6, 2009.

### 14. References

Polk City Directories® (2009)



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October 15, 2009

Mr. Raymond R. King  
District Director of Environmental Health  
North Georgia Health District  
100 West Walnut Ave, Suite 92  
Dalton, GA 30720

Re: Request for Intent to Drill Forms

Dear Mr. King:

Pursuant to a recent Section 308 of the Clean Water Act request for information from the United States Environmental Protection Agency (EPA), Dalton Utilities is required to conduct a Drinking Water Well Survey for all wells located within a one mile radius of Dalton Utilities' Land Application System located in Murray and Whitfield Counties. As part of the survey to locate any potentially affected wells, Dalton Utilities is required to review any Intent to Drill Forms or other similar forms that may have been filed with the county health departments in Whitfield and Murray Counties.

Please forward copies or make available original copies for review of any Intent to Drill Forms or other similar forms that are on file in Murray or Whitfield County Health Departments within a 1 mile radius of the Dalton Utilities property as shown on the attached map (see Attachment A). If necessary, Dalton Utilities can send personnel to the respective county offices to review these documents.

As the Section 308 request has time constraints, your timely response within two weeks will be greatly appreciated. Please let me know how we can best accomplish this task. I can be reached at 706-529-1010 or [dhaverland@dutil.com](mailto:dhaverland@dutil.com).

Sincerely,

  
Dena Haverland  
Regulatory Compliance Manager

Attachment

# Dalton Utilities Private Drinking Water Well Survey Protocol

## Attachment C

### Telephonic Notification Script

Good Morning/Afternoon Mr/Mrs. \_\_\_\_\_,

This is \_\_\_\_ with Dalton Utilities.

We have identified two chemicals in groundwater at our land application site for which United States Environmental Protection Agency (USEPA) recently issued Health Advisories. USEPA studies of exposure to the chemicals have not shown any adverse health outcomes in humans. Just to be safe, we are conducting a drinking water well survey of residences in the vicinity and would like to ask you a few questions.

1. Do you use a private well for drinking water? (Yes – Go to # 2; No – Thank them for their time and end the call)
2. Do you have a connection to a source of public drinking water? (No – Go to # 3; Yes - read below)  
Please use your public drinking water connection for drinking, cooking, and activities such as brushing teeth until we have finished our investigation and provide you with further information. Thank you for your time. (End call)
3. We would like to schedule a time to test your well to determine if it has been impacted by these two chemicals. When would be convenient for someone from Dalton Utilities to obtain access to your well for sampling? (Schedule day/time). We will also provide to you some US EPA frequently asked questions and answers regarding the chemicals for which we are testing. . Additional information is available on the US EPA's website which is listed on the handout for your convenience.
4. If you have any additional question, you may contact me at \_\_\_\_\_. (Record their name, date, and time.)



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## Attachment E

### List of Perfluoridated Compounds (PFC) for Chemical Analyses

As Revised June 17, 2009, by EPA

Compound	Acronym	Reporting Limit (RL) ug/l	Method Detection Limit (MDL) ug/l
Perfluorobutanoic acid	C4	0.02	0.0062
Perfluoropentanoic acid	C5	0.03	0.0082
Perfluorohexanoic acid	C6	0.02	0.0030
Perfluoroheptanoic acid	C7	0.02	0.0054
Perfluorooctanoic acid	C8 / PFOA	0.02	0.0055
Perfluorononanoic acid	C9	0.02	0.0065
Perfluorodecanoic acid	C10	0.02	0.0026
Perfluoroundecanoic acid	C11	0.02	0.0025
Perfluorododecanoic acid	C12	0.02	0.0040
Perfluorotridecanoic acid	C13	0.02	0.0072
Perfluorotetradecanoic acid	C14	0.02	0.0087
Perfluorobutane sulfonate	PFBS	0.02	0.0045
Perfluorohexane sulfonate	PFHxS	0.03	0.0084
Perfluorooctane sulfonate	PFOS	0.02	0.0068
Perfluorooctane sulfonamide	PFOSA	0.05	0.0057